DOCUMENT RESUME

ED 331 494 IR 015 024

AUTHOR Roberts, David, Ed.; Meacham, David Ed.
TITLE Occasional Papers in Distance Education: Number 11, Charles Sturt University.
INSTITUTION Charles Sturt Univ.-Riverina, Wagga Wagga (Australia). Div. of External Studies.
REPORT NO ISSN-1034-7186
PUB DATE Apr 91
NOTE 55p.
PUB TYPE Collected Works - General (020) -- Reports - Descriptive (141) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Agricultural Education; *Distance Education; Dropouts; Educational Administration; External Degree Programs; Foreign Countries; Higher Education; *Open Education; Student Attitudes; Surveys
IDENTIFIERS *Australia

ABSTRACT

The four papers in this collection focus on distance education and open education. In the first paper, "The Open Learning Institute," D. W. Roberts cites the original recommendation that Charles Sturt University establish a new division to be known as the Open Learning Institute, and presents a definition of the concept. In the second paper, "Open Learning at Charles Sturt University," R. Johnson discusses the rationale behind open learning and provides a detailed description of the Division of Open Learning, including its component parts, future activities, centralization, administrative structure, the officer in charge, and changes that might be made in the mainstream activities of the university to more fully realize the potential of open learning. In the third paper, "Applying Kember's Linear-Process Model to Distance Education at Charles Sturt University-Riverina," D. W. Roberts, B. J. Boyton, S. Buete, and D. M. Dawson report on a study of college dropouts which used the David Kember model of the distance education dropout phenomenon as a basis for a series of interviews with external students. In the last paper, "Australia's First Agricultural Degree (Technology) by Distance Education," A. M. Dunn describes the development and implementation of an associate diploma program in agriculture-farming using distance education methods and technology. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED331494

OCCASIONAL PAPERS IN DISTANCE EDUCATION

NUMBER 11

Charles Sturt University

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

David Roberts

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

120/5024

Occasional Papers

in

Distance Education

Number 11

Charles Sturt University

April 1991

Produced by the Division of External Studies
Printed at CSU-Riverina Printery
Charles Sturt University

ISSN 1034-7186

CONTENTS

	Page
Editorial comment	1
Notes on authors	2
Roberts, D.W. The Open Learning Institute - introductory comments	3
Johnson, R. Open learning at Charles Sturt University - report to the Vice-Chancellor	6
Roberts, D.W., Boyton, B.J., Buete, S. and Dawson, D.M. Applying Kember's linear-process model to distance education at Charles Sturt University-Riverina	15
Dunn, A.M. Australia's first agricultural degree (technology) by distance education	40
A call for papers ...	50

EDITORIAL COMMENT

'Correspondence courses', 'external studies', 'distance education' are terms familiar to most who work in higher education. If you live in the South Pacific you would probably feel more comfortable with 'extension study', and in New Zealand 'extra-mural study'. In recent years a new term has gradually emerged; 'open learning'. Originally used by the Open University in the United Kingdom (1969) this term has now come to mean all sorts of things to all sorts of people. Many have no idea what it means!

Charles Sturt University, prominent in the field of distance education for many years will in 1991 launch an Open Learning Institute. What is open learning? What is the CSU Open Learning Institute? How will open learning impact on the 70 distance education credit programs already offered by the University? The first two papers address these issues.

The third paper is a report of the impressions of some thirty-six CSU-Riverina students of their experiences with distance education. Although a tiny sample (a total of 4600 students are enrolled externally) their views are well worth reading.

The final paper describes a new external program that commenced this year. The degree - Bachelor of Applied Science (Agriculture) reflects the constant need to update and stay abreast of changing industry demands.

We hope you enjoy this issue and encourage you to contribute to future editions.

David Roberts
Co-editor
CSU-Riverina

David Meacham
Co-editor
CSU-Mitchell

NOTES ON AUTHORS

Bruce Boyton is external student liaison officer with Rivcoll Union at Charles Sturt University-Riverina.

Sue Buete is student liaison officer with the Division of External Studies at Charles Sturt University-Riverina.

Dolores Dawson is equal employment opportunity coordinator at Charles Sturt University-Riverina.

Tony Dunn is a lecturer in Agricultural Extension with the School of Agriculture at Charles Sturt University-Riverina.

Richard Johnson is an Emeritus Professor and Visiting Fellow to the Australian National University.

David Roberts is Associate Head of the Division of External Studies at Charles Sturt University-Riverina.

THE OPEN LEARNING INSTITUTE
Introductory Comments

Roberts, D.W.

On 9 December 1990 the Board of Charles Sturt University accepted a recommendation from the Vice-Chancellor, Professor C.D. Blake AM, that the University establish a new Division to be known as the "Open Learning Institute".

Recommendation V-C26A reads as follows:

Recommendation V-C26A

That:

1. the University establish a new Division, to be known as the "Open Learning Institute", with an Executive Director as the officer in charge.

2. the Division comprise:

   a. the Distance Education Centre (DEC) with outlets potentially at all three Members. The DEC shall be concerned with the development and delivery of the credit programs of the University available in the external mode, as well as providing a service under contract to other institutions that have not been designated DECs by the Commonwealth; and

   b. the Continuing Education Centre (CEC), also with outlets at all three Members, but presently known by different names:

      . Mitchellsearch at CSU-Mitchell
      . Division of Business and Marketing at CSU-Riverina
      . Murray Business Centre at CSU-Murray

      The CEC shall operate through the existing outlets and will be concerned with the professional, industrial and recreational educational programs offered on a fee paying basis, principally to persons not presently enrolled in the credit programs of the University.

      Particular responsibilities of the CEC will be to increase access by members of the community to the educational offerings of the University, to design learning programs to meet the needs of specific business, industrial, professional or recreational groups, to extend the use of existing teaching materials by repackaging and marketing materials to new users and to foster articulation between the credit and non-credit courses of the University.

3. the Executive Director recommend to the Vice-Chancellor an appropriate administrative structure and staff establishment for the Division.

Note: The Vice-Chancellor intends:

a. to refer the report of Professor Johnson to the Executive Director of the Open Learning Institute, with the request that the detailed recommendations contained in the report be considered and action taken to implement the principal recommendations through the appropriate Committees or Divisions of the University; and

b. to accept the advice contained in pages 11 and 12 of the report relating to the qualifications, experience and level of appointment of the officer in charge of the Division. The position would be filled after open public advertisement.

C.D. Blake, AM
Vice-Chancellor

Recommendation V-C26A makes reference to the report of Emeritus Professor Richard Johnson and requests that action be taken to implement the principal recommendations contained therein. During 1991 the ramifications of these new initiatives will begin to impact on staff at the University. For this reason, the full text of Professor Johnson's report to the Vice-Chancellor is reproduced in this issue.

Prior to accepting this consultancy, Professor Johnson published a key paper in June 1990 entitled *Open Learning: Policy and Practice* (NBEET, Commissioned Report No. 4). Copyright restrictions preclude the reproduction of this paper in toto here, however, the short summary statement is pertinent and useful in defining the concept of open learning and its implications.

Summary

Australian society is changing. Open learning is an educational approach required to cope with those changes, in the provision of education.

'Open learning' is a term increasingly used in educational writing. It embraces such practices as open admission or more flexible admission requirements to educational courses; student choice of topics and modes of study (face-to-face, distance/external, full-time, part-time); student choice of timing and manner of assessment; use of communication technology to facilitate choice and learning. It is more an approach to education than a particular technique.

Elements of open learning have existed in Australia for decades and the practices appear to be increasing. Some institutions overseas are established entirely on an 'open' philosophy.

As Australia tries to recruit more and more students into tertiary education, and as it seeks increased training for its entire workforce, the open approach will be needed because of the wide diversity of

background and needs amongst those being trained and educated. This has implications for:

. policies on admission to courses and training programs;
. structure of syllabuses (in modules) and whole courses;
. the teaching process, less 'professorial' and more "tutorial";
. use of technology, and cooperation in that use;
. cooperation between institutions and sectors including the private sector;
. assessment, accreditation and awards;
. credit transfer and the concept of a 'credit bank';
. attitudes of teaching staff, and their conditions of work; and
. funding and administrative structures in education.

This paper explores these issues briefly and canvasses the potential advantages and risks of the open approach. It concludes that it is probably in the long run irresistible in a democratic society; its introduction can be facilitated by proper understanding and intelligent preparation.

(Johnson, R., (1990) *Open Learning: Policy and Practice*, NBEET, Commissioned Report No. 4, Canberra, AGPS.)

It will be interesting to observe the extent to which 'open learning', as defined in the summary statement above, materialises with the coming of an Open Learning Institute (OLI) at Charles Sturt University.

OPEN LEARNING AT CHARLES STURT UNIVERSITY
Report to the Vice-Chancellor

Johnson, R.

THE CONSULTANCY

In September 1990 I was invited by the Vice-Chancellor of Charles Sturt University to consider undertaking this consultancy, and was formally invited to carry it out on 9 October. I visited Bathurst on Monday 22 - Tuesday 23 October, Wagga on Tuesday 23 - Wednesday 24 and Albury on Thursday 25. On these occasions I had discussions with the Vice-Chancellor twice, with the Deputy Vice-Chancellor (Services), the Pro-Vice-Chancellor, the Secretary of the University, the Deans and Heads of Schools, senior members of the general staff of CSU, the Heads and some other staff of the distance education operations and the various marketing and consultancy arms of the University. I was supplied with copious oral and written information about the University and the activities relevant to my consultancy on open learning. I was also given a set of five terms of reference which form the basis of this report.

RECOMMENDATION

Following my visits I made a preliminary recommendation which I see no reason to amend. It is:

> "To establish a Division of Open Learning within Charles Sturt University. The function of the division will be to provide on an open-access fee-paying basis courses and learning opportunities in general and professional continuing education to meet the needs of industry and the requirements of "the clever country" nationwide. The main components of the division will be the units in CSU currently engaged in producing distance learning materials and the units engaged in marketing academic expertise.
>
> The division will:
>
> - contract with CSU academics and other experts to develop courses and to tutor and assess students enrolled in them;
>
> - admit enrollees in courses regardless of previous levels of scholastic attainment, though applicants may be counselled about inappropriate enrolments;
>
> - charge fees sufficient at least to cover the full real costs of operation;
>
> - teach principally through distance learning, though residential short courses will also be part of the operation;

- seek and cater to nationwide and international markets;

- issue certificates of attainment at various levels;

- allow the accumulation of credit from the division's courses and any other assessable learning, towards the issue of its certificates;

- negotiate credit for the division's certificates should students enrol in regular CSU award courses."

The remainder of this report gives the rationale for this recommendation and a fuller explanation of the concept.

RATIONALE

It is clear that, quite independently of this report and recommendation, there is a need for radical restructuring of Charles Sturt University arising from the amalgamation of its component Members. If it is to function as one university, without duplication of functions and consequent waste of resources, some hitherto separate activities must be brought into one, albeit with some measure of decentralisation. Relevant to this report are the two distance education operations at Riverina and Mitchell and the three marketing/consultancy operations at Mitchell, Riverina and Murray. It seems essential that in one university each of these operations be brought into a single distance education or marketing team, with one purpose and policy, sharing responsibilities and duties rather than duplicating them, while maintaining a physical presence on each campus where they are now.

This need in any event to restructure offers an opportunity to expand significantly Charles Sturt University's contribution to professional and general continuing education. Other factors favoring such expansion are: the national emphasis on training at all levels, the acceptance of the concept of lifelong learning and the financial resources made available through the training levy; the intellectual resources of Charles Sturt University as a whole, combining resources that were formerly confined either to Riverina or Mitchell CAEs; the considerable combined capacity of the University in provision of distance education and in marketing and consultancy; its capacity to provide short-course residential schools within reasonable range of the Newcastle-Sydney-Wollongong and Port Phillip conurbations; and its growing network of outreach centres. At present these resources are used to provide award-level education, which is and will remain Charles Sturt's primary task, and to provide continuing education and consultancies mainly in the regions of the three campuses, as well as to recruit overseas students at full fee. The gap in Charles Sturt's provision is the gap between Bathurst and Singapore: provision to the nation as a whole through well-designed, well-taught distance education materials aimed at professional continuing education.

In such provision I have the impression that the University would have little competition. The university colleges at Toowoomba and Rockhampton, Deakin and Monash Universities are active in the field, the other Distance Education Centres far less so. A number of Charles Sturt's areas of expertise, for instance in applied science and justice administration and banking, are unique to it. In other areas - of social science, land and resource management, Aboriginal

development, financial administration, your Telecom and Australia Post programs, and probably others - you have already established your leading reputation with major nationwide clients. The suggestion in this report is to increase that momentum with a concerted drive and to outstrip your possible competitors before they can become established in your fields - and in this way produce not only substantial income for the University but a distinctive national reputation for valuable nation-wide service.

A TITLE

The terms of reference for this consultancy used the term "Open Learning Institute" for the hypothetical organisation. This term is used in other parts of the world - British Columbia has an Open Learning authority and Hong Kong has an Open Learning Institute - but these are autonomous bodies, not components of another institution, and they have legal authority to award degrees in their own name. The use of such a title for a subsidiary of Charles Sturt University could lead to some confusion on the international scene, and it might be preferable to consider other options.

Since this report proposes that the organisation be a division of CSU, obvious titles are the Open Learning Division or the Division of Open Learning - the main difference is, which acronym would be preferable? Other possibilities which are in general currency in Australia are the Continuing (or Professional) Education Unit (or Division) - or, more distinctively, the Continuing Education College or simply the Open College of Charles Sturt University. The important thing is that the title should be clearly understood and readily recognised by potential clients across the nation. The remainder of this paper refers to the Division of Open Learning, or DOL, but obviously the title is a matter for the University to decide.

COMPONENT PARTS

The Terms of Reference asked advice on what present functions and future activities should form part of the new organisation. I address first the present functions.

There are two distance education units, one at Riverina, one at Mitchell, at present operating in a largely autonomous way, though with collaboration and good relations between them. They cooperate with academics in preparing course content for distance study, their energies to a very large degree being spent on award courses. The skills of the two Heads are largely complementary and they could work well as a team within a single unit, sharing responsibilities and functions. There is little spare capacity in the units and even with some degree of rationalisation after amalgamation the new unit could not take on the course development and materials preparation of a major expansion of continuing education without some extra resources. While it is expected that the DOL will become self-supporting from fee income, some initial investment is likely to be necessary to bring it up to full operation. A unified distance education unit should certainly form one of its components.

There is a marketing and consultancy agency on each campus: Mitchellsearch in Bathurst, the Division of Business and Marketing (with three component parts) at Wagga, and the Murray Business Centre at Albury. At present they operate independently, but if Charles Sturt is to be one university that is not defensible. However they each have strong and productive links to their local business and industrial communities, and they each know the particular skills and personnel available on their several campuses; for these reasons a local presence should be retained on each campus, but not three free-standing operations. They should become components of one organisation and work as a team within the Division of Open Learning, pooling their insights, proposals and experience and their local knowledge and sharing out their duties. There is a complication in this: the Wagga and Albury operations are in all respects part of the University, but Mitchellsearch is a legally separate company. I do not see the reason for this or any advantage in this status, and I suggest that Mitchellsearch as a company be wound up and the staff and activities transferred to the DOL.

My own view of the activities of these agencies is that they cater energetically and well to the continuing education needs of their region - Murray, Riverina or Central West - and seek out such business enthusiastically and capably. They also pursue short residential course business from Sydney, Melbourne and elsewhere with success. They are active in the recruitment of overseas students. When it comes to seeking nationwide clienteles who can be served through distance education packages and other measures, they have done very little; and lest that be seen as a criticism, let me say that they operate at such low staffing levels that I readily accept the argument that they have no spare capacity to pursue and develop such business, even though they see the opportunity is there. This report tries to address that lack; by bringing three operations together into one, even before the injection of some funds for investment or seeding, it may be that some spare capacity can be identified within the larger group which may be applied to identifying national markets and developing programs to meet them.

The distance education and marketing units would be the central components of the DOL. They would have to be supported by the central administration of the University for personnel matters, student enrolment and progress, charging of fees and general financial administration. Experience might prove that it is better to hive off these activities and make the Division a wholly self-contained unit, but I suggest that this step be deferred as long as possible and that it is better if it never becomes necessary; once one duplicates functions, even between award and non-award courses, the possibility for confusion, duplication and error is magnified, and it would be better to settle specialised questions by specialised procedures or sections within the central functional areas of the University.

Another group of present functions which are clearly crucial to the work of DOL are the academic schools. Equally clearly, they do not form part of DOL. Their principal job is the education of the award-seeking students of the University. However their courses offered for credit can also be accessed in single subjects and groups of subjects by students enrolled through DOL, for full fee, for instance in graduate certificate programs or as miscellaneous students. These academics also will be the people who develop specific professional continuing education courses and who advise on outside experts who might be contracted to meet specific needs beyond the range of Charles Sturt. In short, although they will not form part of the Division, the academic staff must have the closest links with it if it is to succeed at all.

The situation is similar with respect to the student residences. Their primary purpose is to cater for full-time on-campus undergraduates, and nothing should infringe on that. However their spare capacity, at vacations and perhaps at other times, should be available for projects sponsored by DOL and therefore there should be the closest collaboration between their administration and the Division.

FUTURE ACTIVITIES

The recommendation is that there should be one Division of Open Learning in the University, with some representation on each of the three campuses. It should include a distance education component working as a single unit though with members on at least the Mitchell and Riverina campuses, partly to work with the academics in those places and partly to link with the necessary support services (printing, warehouse, despatch etc.) in the two locations. The primary purpose of the distance education unit is to contribute to learning materials for degree and other award courses, but its expertise and facilities should be available on a fee-for-service basis to prepare continuing education materials. The fees should enable the unit to be staffed to meet the additional tasks.

The Division should similarly include a marketing arm formed from the present separate activities at the three campuses. This component should work as a single organisation, with some people having responsibility for recruiting overseas students, some for promoting continuing education on a nationwide basis, and some for arranging programs to met needs in the three campus regions. This last group inevitably should be based at each of the campuses, but the other functions could be performed each from a single campus, whichever is logistically most suitable. In promoting nationwide courses, in the first instance it would seem sensible to target national firms, as has already been done to some extent, e.g. with Westpac. It is easier and more economical to deal through one widespread firm than to recruit a host of isolated students. We should remember also that most distance education students are not geographically isolated but live in metropolitan areas; those will be the most fruitful areas to target for continuing education.

There are other elements of the University which should work closely to support the work of DOL, again on a fee-for-service basis, but are too central to the working of the University to be made part of this specialised division. These include the audiovisual, reprographic and computer facilities; the enrolment and student records services; the financial administration; the telecommunications services.

The division should recruit enrolments at full fee for single subjects already offered by the University; for small groups of subjects comprising a course for a particular purpose (for instance the current Westpac Certificate); for vocational courses, which may be very short, specifically devised to meet particular markets in continuing education; short residential schools and conferences; and should continue and extend the present activities in recruiting overseas students both to come to Australia and to study in their own countries towards Charles Sturt degrees. To the greatest extent practicable, the division should follow the practices summarised as "open learning", enrolling students without regard to formal qualifications, enrolling at any time of year, assessing the student at the time and in the manner preferred by the student. These measures will require increased counselling of students and specialised staff development, but if an institution firmly decides to take the "open" path it is practicable to go much

further than Charles Sturt or any Australian university has yet gone - especially in provision of non-award continuing education.

Courses should be developed, taught and assessed principally by CSU academics in conjunction with the distance education unit. It may sometimes be appropriate to use experts, academic or other, from outside the University. All these, CSU staff or not, should be contracted and paid by the DOL for their services. Whether, in the case of CSU staff, this takes the form of payment to the staff member or to the relevant department/school/faculty is a matter for CSU's policies. These payments and other payments for services form part of the costs of each course and the courses should charge fees sufficient to cover the full cost and - where the market will bear it - make a profit. These operations are in general not aimed at the underprivileged; if the University decides to present continuing education programs for disadvantaged groups, DOL should still charge the full costs - it simply charges the University or some sponsor rather than the student.

The DOL should grant certificates of attainment for almost all its offerings. These would need to be at many different levels to take account of the varied durations and intensity of the learning experiences offered, from half-day or six-hour programs to full semester units, and may take account only of attendance or involve formal assessment. It should be possible for the student to accumulate point values from such certificates and progress through various levels. It should also be possible to grant credit towards such certificates for learning, whether scholastic, skilled or experiential, acquired elsewhere. By these measures the students can have some sense of achievement while - because the certificates are awarded within the DOL - Charles Sturt's degrees and diplomas are quarantined and not devalued. However since the providers of the DOL courses will be predominantly CSU academics, it will be possible for them to assess what credit towards the University's formal courses should be granted for any given collection of certificates should a student choose to enrol for a formal course.

In order to carry out its tasks most effectively, the DOL would need to have a database of the intellectual resources in CSU: not only the courses available, but the topics within them, so that new combinations of modules may be devised for particular continuing education programs. Some years ago under the auspices of ACDP such a database was developed of all the topics taught in distance mode in the field of Business; this pilot study might provide a suitable readymade shell for the database I am suggesting. The base could usefully include the research interests and special skills of staff members; audiovisual materials and computer programs likely to be relevant; and holdings of course packages. This information should be available on-line to the marketing arm of DOL.

CENTRALISATION

The Terms of Reference ask what functions should be centralised and which might be decentralised. From what has already been said it is clear that the distance education unit should be represented on the two larger campuses and the marketing agency on all three, to keep in touch with the academics on these sites and - in the case of the marketing agency - the better to serve the regions. The other services supporting the work of the DOL should be located where they best suit the general interests of the University, not the specific interests of DOL.

Despite some measure of decentralisation, the DOL should work as a united team particularly in planning nationwide continuing education programs. These should be planned also in conjunction with academics in the fields to be offered. The regional programs on the other hand are best developed by the particular regional campus, while the overseas operations might well be handled all from one centre. My inquiries did not go to such detail as to enable me to suggest which location that might be.

The whole division should be under an executive head who should report to the level immediately below the Vice-Chancellor. It might be argued that this level should be the Pro-Vice-Chancellor, on the understanding that he is to have responsibility for questions of educational management, access and the use of technology. It could also be said that continuing education and in particular the distance education unit are academic services and that the head of DOL should report to the Deputy Vice-Chancellor responsible for them. I leave those alternatives for consideration, making only the firm negative recommendation that the division **not** be placed under the other Deputy Vice-Chancellor, on the grounds that he will be fully committed to the mainstream, credit activities of the University and that the inevitably more conservative stance appropriate to these activities might inhibit the flexibility and openness required for the DOL to succeed.

ADMINISTRATIVE STRUCTURE

The structure of the division should follow from its functions: to compile a database as described above; to identify opportunities of providing continuing education throughout the nation as well as in the regions and overseas; to develop sound learning materials for specific purposes; to promote and market these materials; to administer the processes of enrolment, progress, assessment and certification; and to take fees, write contracts and administer funds.

A suitable structure for these purposes is:

- A Head of Division, supported at a senior level by the senior officers in the distance education and marketing units. One might consider whether there is need for an advisory committee, but it is easy to multiply committees unnecessarily.

- A small secretariat with skills in preparing a database and generally in information technology. The database mentioned previously would be of interest to the University's central administration and to the schools as well as to DOL.

- A unified though decentralised marketing agency, working in liaison with academics and marketers on the development of learning materials.

- A section of the central student administration whose primary task is the administration of continuing education students.

- A section of the central financial administration whose primary task is the administration of DOL's finances.

The Terms of Reference refer to the existence of Outreach Centres and seek some advice on their administration. At the moment these are essentially places in southern NSW where distance students may get access to educational technology and where they may from time to time receive face-to-face tuition. The sensible administrative location seems to be with the distance education unit. In the longer term as the University increases its continuing education provision to the nation as a whole it should negotiate contracts with universities in Canberra, Wollongong, Sydney and with TAFE colleges to provide student access and support in those cities and as these prove successful other institutions nationwide can be brought into the network.

THE OFFICER IN CHARGE

The Terms of Reference seek advice on the characteristics and level of appointment of the officer in charge and on the second tier administrators. The latter would seem to be simply the senior officers of the distance education unit and of the marketing agencies, who are all already in place. There might need to be some rationalisation of seniority amongst the staff of the marketing agencies but I am not sufficiently familiar with the personnel and their work to produce reliable detailed recommendations.

The officer in charge of DOL does not need to have high academic qualifications such as a PhD. It is not a job of scholarship or teaching, though a degree or considerable familiarity with academe would seem essential. The person will have to have high organisational skills; this is a complex operation and it is hoped it will grow considerably. The person will need entrepreneurial skills, the ability to perceive opportunities and to move fast and effectively to exploit them. The person will need to be a capable financial manager, supported by the University's financial administration. Finally he or she will need interpersonal skills since much of the work will require leadership, persuasion and teamwork.

Therefore the University should probably look for someone with a degree but not necessarily any higher formal qualification; and someone with successful experience in promoting or marketing education and training to industry and within industry. Such a person might be found amongst the senior training executives of major firms and possibly in the ranks of private entrepreneurs and consultants in education and training.

The appropriate level of appointment is virtually already determined by the boundaries. The person must be senior to the present senior staff in the distance education and marketing agencies, but at a lower level than the Pro/Deputy Vice-Chancellor to whom the officer will report. This suggests a salary in the professorial region. However since entrepreneurship must be encouraged in the job, and the job is to make money for the University as well as to meet national needs, the University should consider whether a bonus should be available, based on annual performance.

The designation of this post should reflect its main function. "Head of Division" is cumbersome and colourless. "Director" and "Manager" seem appropriately commercial and distinctive within CSU. "Dean", "Rector" and such titles are too academic for a venture which is mainly a promotion of academic courses rather than an exercise of academic skills.

CHANGES TO MAINSTREAM

The final Term of Reference is very sweeping, asking in essence what changes might be made in the mainstream activities of the University, its credit courses, to realise fully the potential of the proposed open learning activity. That activity may be divided into two broad categories: the provision on a non-credit basis of units or groups of units out of CSU's credit courses; and the provision, again not for credit (apart from certificates of attainment) of courses specially designed for continuing education. The second class would not appear to require any changes in the mainstream operations of the University. The former class would be made more effective if: all credit units were structured in modules so that modules could be combined from different units to meet special purposes; all courses were basically a set of learning materials supported by a "resource person" (an academic staff member) rather than being "taught" in a traditional sense; enrolment - that is, access to these learning materials - could be arranged at any time, or several times a year; each student could be assessed when he/she felt ready for it, rather than following a rigid prescription of course time; and communications technology and contracts with other institutions were used to the full to minimise the need for attendance on one of the CSU campuses.

No one should suggest that these changes would be easy, but they are not impossible; there are institutions operating in these ways. No one should suggest either that the change in the role of the academic, from teacher to learning resource and learning facilitator, will be accepted and implemented without difficulty by most academics. A large effort of staff development would be required, in educational philosophy, in course development, in uses of technology, in understanding learning styles, in the role of facilitators. There may well be industrial relations issues to be addressed such as a revision of the duties and expectations of academic staff. There will also be considerable implications for the administrative staff, especially in the area of student administration.

If, however, the University were prepared to begin with open learning in the field of non-award continuing education and then apply the techniques and lessons learnt there to the full range of its operations, it would be unique within Australia and one of very few truly open universities in the world. In my discussions within the University the predominant attitude was reluctance to go so far at this stage but I was surprised at the degree of support which the idea commanded. One of the tasks of DOL might be to foster such attitudes within the mainstream work of the University, because in my view in the long term such developments are inevitable.

APPLYING KEMBER'S LINEAR-PROCESS MODEL TO DISTANCE EDUCATION AT CHARLES STURT UNIVERSITY-RIVERINA

Roberts, D.W., Boyton, B.J., Buete, S. and Dawson, D.M.

ABSTRACT

Kember's linear-process model of drop-out from distance education (described in detail in *Distance Education* 10, 2, 196-211) has been adapted and used as the basis for a series of interviews with students studying externally at Charles Sturt University-Riverina. Although the sample is small, a number of issues are raised that are relevant for distance educators. It is concluded Kember's model provides a useful theoretical underpinning for examining not only reasons for student withdrawal but also why they continue their studies.

INTRODUCTION

Those who have been involved in teaching by the external study mode know that 'withdrawn' is a comment written on final assessment sheets all too often. For years researchers have asked why so many external students withdraw, when the phenomenon is most prevalent and which students are most 'at risk'. Some progress has been achieved with the result that academic authors, instructional designers and development officers are now better able to design learning strategies suited to the particular needs of their distance education students. Despite the good efforts of all concerned, attrition rates remain uncomfortably higher than those for on-campus students. For some time those involved in distance education have felt that a model encapsulating the plethora of inter-related factors that might contribute to drop-out could provide a theoretical basis for further research and the planning of effective intervention strategies. Until recently no such model existed.

In 1989, David Kember, senior instructional technologist at the Hong Kong Polytechnic, put forward a linear-process model of drop-out from distance education which represented an interesting attempt to take a holistic view of the drop-out phenomenon. It is the purpose of this paper to briefly review Kember's model and to describe a minor study conducted at Charles Sturt University-Riverina during 1990 which attempted to use the model as theoretical underpinning. The semi-structured interview procedure used in this study also provided useful feedback from a small sample of external students about Charles Sturt University-Riverina's support systems.

KEMBER'S LINEAR-PROCESS MODEL

Kember's linear-process model of drop-out from distance education is based upon Tinto's model of drop-out from higher education first published in 1975. Tinto's model however, was formulated for full-time students taught face-to-face and residing on-campus. A key characteristic of the Tinto model was to

examine the integrative effects of student-faculty and student-student contacts of an academic or social nature (Tinto, 1975). The quantity and quality of such contacts, it was argued, profoundly influenced the extent to which on-campus students identified with their Institution and hence whether they continued their studies. Valuable as Tinto's model may be for on-campus students it was clearly not designed for the very different context in which the external student must study (Tinto, 1982).

The Kember model has been designed specifically for the distance education mode yet incorporates some of the thinking of Tinto. The model is linear in nature and includes a recycling loop. The model is shown as figure 1 (Kember, 1989).

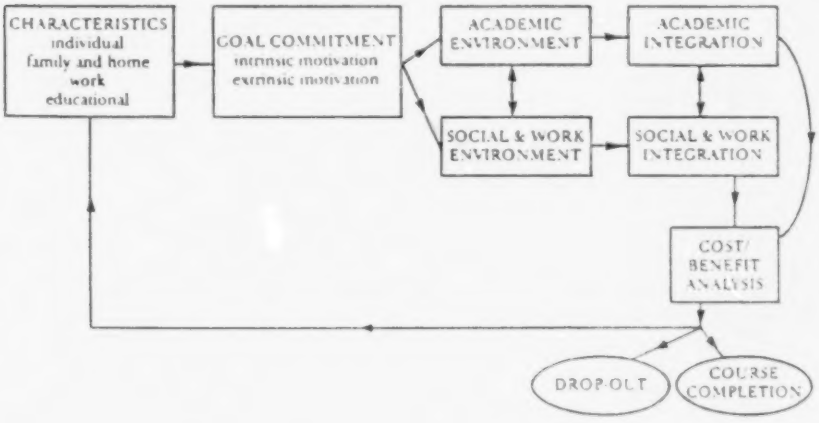


Figure 1. The model of drop-out from distance education (Kember)

Kember's model is made up of seven major components. In this study however it was found to be very difficult to maintain a division between academic environment and academic integration and between social and work environment and social and work integration. Kember's seven components have consequently been reduced to five; characteristics, goal commitment, academic environment and integration, social and work environment and integration, and cost/benefit analysis. The five components are outlined below.

Characteristics component

'Characteristics' refers to the private context in which a student must study and incorporates such matters as his/her personal traits, attitudes, home and family arrangements and previous educational experiences. No studies are known to the author that seek to examine the relationship between personality factors and the likelihood of success in distance education. It is not hard to hypothesise however, that such attributes as determination, persistence, being a well-organised person, having an independent nature may be important for success. The support and understanding of loved ones is also a crucial factor in providing the encouragement an external student needs. Previous educational experiences not surprisingly have a bearing on an external student's ability to achieve. Studies conducted at the Open University in the United Kingdom have shown that the level of educational attainment prior to enrolment influences educational self-concept and consequent success rates (McIntosh et al, 1980:55).

Goal commitment component

Two facets, extrinsic and intrinsic motivation make up the goal commitment component. Extrinsic motivation is related to the rewards a student may receive from studying. For example, students may undertake external qualifications to place them in better positions for promotion, for salary increases or to widen their employability. On the other hand, intrinsic motivation is concerned with a student's interest in the subject matter. Such students are studying for 'pleasure' rather than those extrinsically-motivated students who study for 'profit'. There is some empirical support for the primacy of intrinsic motivation (Deci, 1985, Bowlay, 1979). The reasons why a student studies externally and the depth of goal commitment are major determinants in each student's chances of success.

Academic environment and integration component

According to Kember, the academic environment is defined as:

> ... including all facets of the offering of the distance education course. This would include the package of study materials, academic assistance provided through student support systems, interactions through assignments and any other academic or administrative contact between the student and the institution.

The concept of integration used by Kember has been derived from Durkheim's model of suicide with drop-out equated to suicide. According to Durkheim (1961) integration requires both collective affiliation and normative congruence. If one or the other is absent then difficulties arise.

Collective affiliation in distance education, claims Kember, can be seen as the quality and quantity of contact between the students and the University. This includes academic contact in the way staff respond to student queries, the personal interest displayed by academic staff towards their students and the quality of feedback provided with assignments. Administrative support services also play a major part in either enhancing or degrading collective affiliation. Collective affiliation is not achieved, for example, if an academic member of staff does not ring a student back who has contacted the University for help, nor is collective affiliation engendered if an employee appears disinterested when a potential new external student makes some initial inquiries. For collective affiliation to be fully realised each student must feel everyone at the University is pleased to be involved in his/her progress. Unfortunately one unhappy experience can create a lasting impression that undermines the dedicated work of all other academic and administrative staff.

The other facet of Durkheim's integration concept, normative congruence, has also been translated by Kember into his model. Kember sees normative congruence as the degree of congruence between the curriculum and a student's interests and career needs. If the content is relevant, normative congruence is high, if the subject material is dysfunctional, low normative congruence results.

To summarise this component, the academic environment promoted by Charles Sturt University and the extent to which our instructional materials are relevant to the needs of students are important considerations in the decision of external students to continue or discontinue their studies. Whereas the University can only indirectly influence the first two components in Kember's model, the academic environment and integration component is entirely the result of the University's approach to its students. This component is therefore of great importance for University staff.

Social and work environment and integration component

According to Kember, this component of the model deals with the extent to which a student is able to integrate the study process with family, social life and work. In the ideal social and work environment the student receives maximum support and encouragement from members of the family, friends and work colleagues. Often this supportive environment is not present however. Open hostility towards a student and his/her study may come from close family and friends resentful of the time needed to complete studies. At work, apathy may be experienced that can turn to hostility if other staff are required to work additional hours because a student needs more time to study, attend examinations or go to residential schools. Social and work environment and integration is a major determinant in whether a student continues studying.

Cost/Benefit analysis component

Usually external students take twice as long to complete a qualification as their internal colleagues. Frequently during this long drawn-out period students studying externally are likely to ask whether it is all worthwhile. In effect they go through a cost/benefit analysis exercise in which the costs of studying are measured up against the benefits. Unless the scales remain tipped in favour of the benefits side of the equation students will withdraw. A hypothetical example (figure 2) follows:

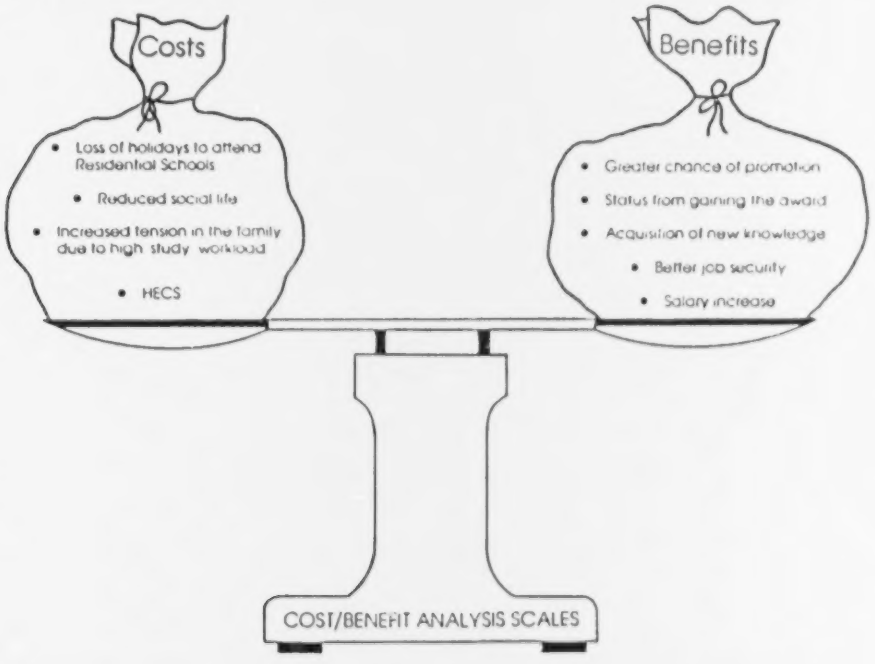


Figure 2. Hypothetical example of a student's cost/benefit analysis

Particular features of Kember's model

Attention needs to be drawn to two significant features of Kember's model. Firstly, it is stressed that it is a linear model. This means that a change in situation in any one component is likely to have an influence on other components. Kember provides numerous examples of this but let me illustrate with an example from one of our own students. At a recent residential school a student told me he was about to drop-out shortly after receiving his autumn

session materials. Although over two-thirds of the way to finishing a degree the financial cost of being a student was becoming too much. He was required to attend another residential school in May which for him meant an amount of around $300 for accommodation and travel costs. He had reached the stage where expenses (costs) outweighed benefits and he was not prepared to continue what to him appeared to be a selfish use of the limited money available to his family. His goal commitment dissipated and he decided sadly to write and inform the University of his decision to withdraw. Fortunately for this student, a new boss arrived in his office at about this time who was particularly impressed to see he had already completed two-thirds of a degree. Aware of the benefits that might accrue to the business if the degree was completed and his employee realised an ambition, the boss offered to pay all the remaining residential school costs. Here was enormously encouraging support from the workplace which consequently rekindled the student's goal commitment. The scales tipped back in favour of the benefits and the withdrawal letter was never sent.

The above example also demonstrates a second important feature of Kember's model; the recycling loop. The variables within each of the components are dynamic such that a student may, time and again, go through the cost/benefit analysis procedure as their situation changes. As circumstances change, the balance between costs and benefits changes too - thus recycling of new information is typical in the study-life of an external student.

METHODOLOGY

The complexity and inter-relatedness of the kind of data needed to test Kember's model was such that a questionnaire was ruled out. Instead it was decided to use a semi-structured interview technique with a sample of students enrolled in two subjects requiring residential school attendance in May, 1990. The interviews were conducted by a team of four on a one-to-one basis after the formal residential school requirements were completed each day.

The interview instrument was based on a questionnaire developed originally by Kember and adapted for use at Charles Sturt University-Riverina. The instrument was trialled and the interview team subsequently held meetings at which the interview approach was standardised and any items requiring clarification discussed. Letters were sent to participating students four weeks prior to the residential school explaining the purpose of the interview and requesting cooperation. Final details were arranged when the students arrived. All but two of the students who originally enrolled were eventually interviewed (94.4 per cent). One of these attended for his interview but because of difficulties with the recording equipment the interview had to be abandoned. Although re-timetabled this student did not materialise a second time. The second student had withdrawn. She and her husband were nurses on shift-work and she declined to be interviewed on the telephone.

The interview instrument consisted of forty-three questions. The questions were divided into five groups corresponding to the five major components developed for this study from Kember's model.

Interviews varied in length from thirty-five to fifty-five minutes. With the exception of the six interviews conducted by telephone, all were recorded on cassette tape (with the interviewee's permission) so that a more thorough analysis was possible later. In order to achieve a consistent interpretation the interview analysis was undertaken by one researcher only.

THE SAMPLE

The two student groups selected for the sample were HRT2014: Design Drawing and Landscaping and BIO1044: Microbiology for Nurses.

These groups had simultaneous residential schools thereby making the task of interviewing easier and represented a good gender balance (males and females). Most importantly both groups consisted of a wide range of experience in distance education from students commencing in 1990 through to others who had been studying continuously for up to six years. This was believed to be essential if the linearity of Kember's model was to be apparent.

In all, thirty-six students were interviewed; thirty who attended the residential school and six who had temporarily withdrawn and therefore did not attend the school. The latter were interviewed by telephone shortly after the residential school using the same semi-structured interview.

LIMITATIONS OF THE STUDY

CSU-Riverina at the time of this study had approximately 4,200 external students. This study involved a tiny sample of thirty six students (0.86%). This is too small a sample to be considered representative of the total population of external students. Furthermore the sample was drawn from only two subjects HRT2014 and BIO1044 thereby even further decreasing the degree to which the sample is a true representation of the whole population of external students. Nevertheless, whenever strong views have emerged from this study tentative recommendations have been made. It is accepted however that such recommendations are based on tenuous evidence.

A second limitation concerns the way Kember's model has been employed in this study. It has been used to provide a theoretical framework around which to conduct the study. Whereas the model has been valuable for this purpose it would also have been possible to use Kember's model to scrutinise the performance of individual students. The model appears eminently suited to undertake such individual analysis work. Case studies can be envisaged in which Kember's model is adopted to examine in detail all components of a student's academic progress. Because CSU-Riverina is heavily committed to distance education, a study that provides some indicators as to how well the University is performing (despite the acknowledged small size of the sample) is believed to be of more value than the application of Kember's model to half a dozen individual students. Perhaps this alternate use of Kember's model might be of value to student counsellors who work with external students?

RESULTS

Characteristics

All students were found to have left school at least eight years ago and in one case as many as forty-two years ago. The mean for the sample was 20.35 years with standard deviation 8.1. 70.5% of the sample had reached the final year of high school (equivalent to year 12) with a further 11.7% making it to the

penultimate year (year 11). 14.7% left school at the end of year 10 while one student had survived only to year 9. Of the thirty-six students interviewed, twenty-three had successfully completed other tertiary qualifications before they commenced study at CSU-Riverina (one associate diploma, twelve hospital based general nursing courses, two diplomas, four degrees and four graduate diplomas being the highest awards gained).

A feature was the heterogeneity displayed. Entry characteristics ranged from one person who left year 9 at school forty-two years ago and had never previously studied at tertiary level to a student with three tertiary qualifications who left year 12 ten years ago. Whereas this range in entry behaviour might be acclaimed by advocates of open entry policies, it raises serious questions about the extent to which CSU-Riverina responds to such diversity. If the University wishes to encourage those who have not come from a strong educational background it must provide additional support. The recently instigated ASSIST project at CSU-Riverina is a move in the right direction since it seeks to develop good study skills and student confidence prior to initial enrolment. In addition, CSU-Riverina has an obligation to further develop its Learning Skills Centre for the benefit of external students.

Students were also asked how confident they had felt about succeeding when they first enrolled. Responses, not surprisingly, tended to correlate confidence with previous educational experience.

Table 1. Correlation of previous educational success with confidence level on entry to CSU-Riverina program

Confidence Category	Previous educational qualification	
	Completed tertiary qualifications	Never attempted or failed tertiary quals.
Very confident	5	0
Confident	5	1
Fairly confident	12	0
Unsure	1	7
Not confident	0	3
Number in total group	23	11

Next under 'characteristics' students were asked to explain what they liked most and least about studying by the distance education mode. Thirty-one of the thirty-six interviewees gave as the greatest advantage the freedom to study at home when they wanted to and at a pace that suited them.

Student desire for autonomy and independence has often been discussed in distance education literature (Knowles, 1970, Brundage & Mackeracher, 1980, Hough, M., 1984, Tough, A., 1971, Rogers, C., 1969). So this result was not unexpected. Of the five students who did not champion the autonomy and independence advantages, three claimed not to like anything about studying externally at all while the remaining two saw well presented and highly structured learning materials as the greatest benefit.

The main disadvantage of external study was seen to be academic isolation. This was said to exist in a variety of forms. Eleven students complained of lack of contact with lecturers, ten regretted not having sufficient interaction with fellow students while nine made reference to the difficulties experienced when wanting assistance or effective feedback. The loneliness of the distance education student is well documented, yet it is easy for staff to become insensitive to student needs. Does the University do enough to make external students feel they belong? Are staff accessible? Do students identify with Charles Sturt University? Do we give external students the impression we care about them and their academic progress? How can the University present a more friendly, encouraging image when staff workloads continue to escalate and funds are so short that in some schools staff can no longer telephone their students?

As Daniel and Marquis (1983) have said, there is a fine balance between independence and interaction. External students value their independence and autonomy highly yet many suffer deprived interaction with staff and fellow students. This seems at first contradictory. On the one hand students want to be independent learners but on the other hand they yearn for more quality interaction. Our job is to get the mixture right.

What follows is a list of methods currently used by some CSU staff to foster a more personalised, concerns-based approach to external students:

- inclusion of a staff photograph and short profile,
- an introductory audio tape,
- a short introductory letter of welcome,
- use of a positive, encouraging tone in assignment feedback,
- informing external students of a weekly consultation time when staff are available for visits and phone calls,
- mixing socially at residential schools,
- providing a phone number where lecturer can be contacted at home,
- conducting audio-teleconferences.

By way of summary we can point to a number of characteristics that appear influential in determining whether students are likely to succeed externally; the level of education attained prior to enrolling, the number of years elapsed since studying seriously, the desire on the part of students to be independent learners may all be significant factors. Perhaps there are other pertinent characteristics such as gender, type of occupation and age but these were not focused upon in this study.

Goal Commitment

No one is likely to embark on a demanding distance education program unless there are benefits. Study must satisfy needs and help to achieve goals for each student. What are these goals and how strong is student commitment?

Not surprisingly most interviewees in this study reported having more than one reason for studying. In most cases one reason was dominant but there were others that helped to drive the students on. A student's goal commitment is the combination of all his/her reasons for studying. Table 2 summarises the diverse findings.

Table 2. Reasons for enrolling

Question: Why did you enrol in this course?	
Responses	Number
Need the qualifications	12
Personal satisfaction	11
To make me more employable	9
To update and broaden my knowledge	9
Interest in the field	8
To increase promotional opportunities	7
Feel threatened by more highly trained junior entering the profession	7
Keep up my professional standards	3
To use my time usefully	2
Use my brain	2
Improve my status	1
Increase my salary	1
Enable me to communicate better with new staff joining the profession	1
Total	73

These results reflect the particular concerns of nurses in the sample who were aware they did not possess the same academic qualifications required of new nurses joining the profession.

Students were also asked whether their goal commitment had changed during the time they had been studying. Were they more enthusiastic now than when they had started; had they perceived new reasons for study? Twenty-seven reported no noticeable change but nine students recognised new factors at play. Three of the nine students said they were "fed up with it all" and were just hanging in to get the qualification completed. "We are so close to finishing now that it would be stupid not to finish - I just want to get it done and start living a normal life again". The other six students gave more positive responses; three were seriously considering career changes that they had never thought possible before commencing study; the final three said they had started studying grudgingly because "it was expected of them" but that now they had developed a strong interest in their studies.

It seems there are diverse reasons for study and these can change. Goal commitment is a powerful force in determining whether or not a student continues studying.

Academic Environment and Integration

Student characteristics, and goal commitment are largely out of the sphere of influence of the University. Academic environment and integration on the other hand, are almost totally the domain of University staff.

Earlier academic environment and integration were described as incorporating two major concepts, normative congruence and collective affiliation. Normative congruence was defined as the degree of congruence between the curriculum and a student's interests and career needs. Collective affiliation was described as the quality and quantity of contact between a student and the University which leads to a feeling of affiliation or 'belonging' for the student.

Normative Congruence

Normative congruence is influenced by the perceived value of the academic work required. Unless study is seen to be interesting and relevant a student is unlikely to persevere. All the students interviewed reported their studies to be interesting at least 50% of the time and the great majority stated that most, or all, their study was interesting. A trend emerged amongst the nursing students in the sample however. Twelve nursing students differentiated between 'the nursing subjects' and 'the science subjects'. Whereas the science subjects were considered generally challenging and stimulating, the nursing subjects were described in far less complimentary ways. "A load of theoretical crap" and "the same old stuff we've done before" were two comments. The high incidence of similar comments indicates there is a problem in the nursing degree which needs addressing.

Many external students have definite ideas about what they want to gain from their studies. Knowledge and skills relevant to present vocation is often high on the list. Unless students see the relevance of study, normative congruence declines. Students in this survey were also asked "Is the material in your course relevant to your job?" (All but one of the students had a paid job outside the home.) Responses are summarised in table 3.

Table 3. Relevance of course to job

Question: Is the material in your course **relevant** to your job?	
Responses	Number
Yes	17
Most is relevant - some only indirectly	9
About 50% relevant	4
Not really - only indirectly	3
Too soon to say	1
"Relevance not an issue - I study because I'm interested anyway"	1
Total	35

Of concern in the above table are the seven students who perceive their study as only about 50% relevant or less. Again, these students seem unlikely to persevere. A number of instructional design procedures are of course available to make objectives, content and assessment procedures more relevant.

Related to the notion of normative congruence is the approach students adopt for study. Students who find the learning materials highly motivating, interesting and relevant to their needs could be expected to be more likely to read everything supplied. Unless time is a major constraint, such students would hopefully extend their reading to cover recommended references as well. However, students who do not find their study stimulating and work-related may choose to read only that which enables them to attempt their assignments and examinations. At an early stage after the receipt of study materials, students are likely to decide which approach to take - to read everything or read selectively.

Interviewees were asked, "Do you read everything provided or only what you need to complete assignments and examinations?" Responses are shown in table 4.

Table 4. Student approaches to study

Response	Number
Read everything provided	19
Read everything provided but concentrate on assignments	2
Read to pass assignments and examinations only	7
Depends on time available	4
Depends on the subject - if its interesting read it all - if not just read for assignments and exams	3
"No, I'm a selective reader - interest rather than assignments is my modus operandi"	1
Total	36

Extensive research has been undertaken into the study patterns and learning styles of distance education students. (Clyde et al, 1983, Morgan, Gibbs & Taylor, 1980, Taylor, Gibbs & Morgan, 1980, Dodds & Lawrence, 1983, Marton & Säljo, 1976, Dahlgren, 1978, Bowlay, 1979, Roberts, 1984, Mathias, 1980). Of concern to many researchers is the high incidence of surface-level learning that occurs. Deep-level learning involves the students looking for meaning and trying to relate ideas as they work through their material whereas surface-level processing is seeing learning only as a memorisation task to enable students to 'pass' examinations. Reference to table 4 shows that seven students admit they study only to pass assignments and exams while another seven study to pass assignments and exams only if they find the subject uninteresting or they are pressured for time.

Dahlgren (1978) has suggested that many subjects offered externally contain far too much subject matter with the result that students often have to abandon their

ambitions to understand fully what they are studying and instead direct their efforts to passing examinations. Dahlgren believes that if we are really serious about developing students' thinki ng processes the content of many subjects would have to be reduced by something like 50-75%.

Surface-level learning can also, perhaps unknowingly, be encouraged by the assessment procedure used. If there is an emphasis on passing examinations that essentially comprises regurgitation of factual knowledge or there is a heavy weighting given to objective, multiple-choice questions students will learn quickly the level at which they are expected to perform. If assessment procedures demand only surface learning that is exactly what will result.

So, while a number of students in this sample may be resorting to surface learning techniques their reasons for doing so may vary. Time constraints, the form of assessment demanded and the lack of relevance/interest of the subject materials are all contributory factors individually or collectively.

Collective Affiliation

Most, although perhaps not all, external students benefit from feeling they belong to the University. This sense of identification with the institution as an academic community is not only positive for learning but socially desirable. It has been persuasively argued by Holmberg (1983) that:

> "The stronger the students' feelings of personal relations to the supporting organisation and of being personally involved with the study matter, the stronger the motivation and the more effective the learning."

If Holmberg's statement is correct, (there is substantial support for his position), we need to ask how well CSU-Riverina provides an environment that encourages positive interactions between students and the University. A number of interview questions were specifically designed to investigate this relationship and ranged across residential schools, communications between student and University staff, feedback on assignments, general administration matters, library services and student support.

With very few exceptions, residential schools were seen to be valuable in that they allowed student/student and student/staff interaction. Particularly helpful were the residential schools held for students embarking on new programs. Contacts made at these initial schools were professionally stimulating and enabled informal student support groups to develop. A number of students also claimed meeting lecturers early encouraged them to make contact in later subjects. Had these initial contacts not been made the students might have been reluctant to ask for assistance. Concerns were expressed by three or four students; attendance at schools was expensive, occasionally the schools were not necessary and at times residential schools were so intensely timetabled that unreasonable demands were placed on students. Overall however, the responses about residentials were most positive. Typical comments included, "interesting and enjoyable, its a chance to wallow in an academic environment", "no distractions - its a real holiday", "I've met a great diversity of nurses - had excellent interchanges" and "very motivating and stimulating".

Three questions were asked about the quality of interaction with lecturers. With few exceptions lecturers were perceived as friendly and easy to approach. In response to the question,"Have you ever had study problems but felt the lecturer would not be willing to help?" only three of the thirty-six students replied affirmatively. Perhaps the most interesting question, (particularly since

the University is currently evaluating the demand for Voice Mail systems) related to the number of times students initiated contact with their lecturers. The results appear as table 5.

Table 5. Frequency of student initiated contact with lecturers

Question: Do you ever contact your lecturers? How often?	
Response	No. of students
No, because I don't really have any problems	4
Rarely, probably less than once per subject on average	7
Occasionally, perhaps once per subject	15
Couple of times per subject	5
Three times per subject or more	5
Total	36

The great majority of contacts concerned requests for extensions and/or problems relating to forthcoming assignments (approximately 85%). It would seem that on average a lecturer might expect a phone call per student, per subject, per semester. Such usage is minimal and begs the question whether students would increase the number of contacts to lecturers if it was less expensive and lecturers more easily contactable. The introduction of a 008 number would reduce student costs while a Voice Mail system should ensure quicker, more considered responses to student inquiries. Whatever moves the University contemplates to improve communications between students and lecturers needs to be very carefully evaluated since this is a key component of the academic environment/integration of external students.

Another important component of the academic environment concerns the quality of lecturer feedback. External students have three ways of learning:

- from the learning materials supplied
- from residential schools (if held)
- from the completion of assignments and subsequent lecturer feedback.

It is unwise to speculate relative value, especially since this will vary according to subject, teaching methodology and student preference. For many reasons, too numerous to mention here, assignment feedback is recognised as being vitally important. Feedback should be encouraging, explain where marks have been lost and provide students with ways of learning from their mistakes. Some would argue feedback should challenge students to think and read deeper thereby providing an academic stimulus rather than merely a lecturer's reactions to a submitted piece of work.

In this study students were asked whether comments on returned assignments were helpful. Responses, shown in table 6, were mixed. Student perceptions of the interest taken by lecturers in providing incisive and helpful comment are

in part a reflection of the degree of collective affiliation they experience. Comprehensive and concerned comment must increase students' feelings of belonging to an academic institution (collective affiliation).

Table 6. Feedback on assignments

Question: Are comments on returned assignments helpful?	
Responses	Number
Very helpful	4
Generally "Yes"	21
Some, but by no means all	3
In too many cases "No"	8
Total	36

Table 7 lists the feedback concerns expressed by students. The level of dissatisfaction is too high. Steps need to be taken to examine the reasons for this poor showing and to determine what might be done to improve the standard of feedback.

Table 7. Feedback criticisms

Criticisms	Number
Not enough comment provided	7
Need to know where marks are lost - use proper criteria that students understand	6
Comments are illegible or unclear	3
Too negative - be more positive!	2
Its unfair when different lecturers are marking the one assignment	2
Provide a range of marks (distribution)	1
Use criterion-referenced not norm-referenced systems	1
Standardise referencing requirements	1
Total	23

Another question that attempted to focus attention on student feelings of belonging (collective affiliation) was, "Would you recommend your friends to study externally at CSU-Riverina?" The responses were heartening - thirty-one students gave an unqualified "yes" with typical comments being, "Yes, its a pleasant country University", "I love it here" and "I would certainly recommend others to complete the course I'm doing".

Interestingly, the five students who expressed reservations all referred to staffing inadequacies. For example,

> "No I don't think I could recommend this place, glasshouse facilities are ill-kept - there's a lack of staff. How can a place lecture me about glasshouse maintenance when they can't show me professionally kept glasshouses?"

Each year geographic rolls are prepared and distributed to all students who request them. Students give permission for their names, addresses, phone numbers and subject enrolments to be made available to others on the roll with a view to encouraging interaction. It is hoped that students will informally discuss study problems and support each other when required. In some cases 'study groups' come into being. This encouragement for students to maintain a network of contacts can also be seen as part of the process of collective affiliation. But how effective is it?

Twenty-five of the sample of thirty-six claimed they received the geographic roll (two others were not asked this question and nine said they did not want to be included). Of the twenty-five who received the geographic roll, thirteen said they had used it, four said they had tried to use it but that it had not been helpful and eight had never tried to use it. Typical comments were, "I'd use it if I could, but there's nobody else living near me doing the same subjects" and "We need subject rolls not geographic rolls".

Students were also asked whether they made contact with other students outside residential schools and, if so, how often, and what matters were discussed. Six students claimed they never contacted other students. Of the students who responded positively the frequency of contacts varied between 'weekly' and 'occasionally'. Matters discussed (almost always over the telephone) included assignment requirements, forthcoming examinations and a small group who rang fellow students regularly as a kind of support system. The value of student-student contact should not be underestimated. Many of the students spoke warmly of their contacts; it helped to break down the loneliness of studying by oneself at home. Several students remarked that friendships had first been forged at residential school and that before leaving the school they had resolved to maintain contact. Informal and formal study groups have been strongly encouraged at other institutions (Amundsen, C., and Bernard, R., 1989). It may well be opportune for CSU-Riverina to devote more time and energy to devising methods for supporting student interaction.

Earlier in this paper it was stressed the academic environment and integration component of Kember's model included the administrative support services offered to students. It would appear unlikely that students divide the functions of a University into academic and academic-support. Rather, they view the University as an entity there to assist with problems and to service student needs. Favourable impressions (or otherwise) result from a combination of academic and administrative processes. Consequently a series of questions concentrating on administration matters was put to students.

Question: Have you been receiving your study materials on time?

Responses:		
	. Yes, always	25
	. Always, except this year, due to the transport strike	10
	Total	35

Question: Has information supplied to you about examinations and residential schools etc been sufficient?

Responses:

. Yes (One student was not asked this question)	35

Question: Have you ever needed to contact the Student Liaison Officer?

Responses:

. No, never	26
. Yes, once*	5
. Yes, more than once*	4
. Tried, but was unsuccessful	1
Total	36

* All these students reported successful results.

Question: Are your assignments returned promptly?

Responses:

. Yes	12
. Usually, but not always	12
. It varies, often takes three or four weeks or more (Some added this is often not good enough as the next assignment is due by this time)	10
. No, it's not good enough	2
Total	36

It should be stressed that when assignments are returned late it is, almost without exception, because the lecturer has been slow. Mailing times have not worsened in the last two or three years and the University's computerised processing of the receipt and return of assignments ensures that all assignments are despatched to the lecturer, or back to the student, by the next working day at the latest. Long delays are the result of the inability of some lecturers to meet their marking commitments. The high proportion of students in this sample who were dissatisfied with the return rate of assignments and/or the quality of feedback comments is alarming. It is a problem the University must address. We now have the capability to monitor assignment return rates and even the quality of feedback provided. The challenge is whether the University has the will to police the problem and the determination to reduce excessive workloads in some cases.

Question: Before you commenced study as an external student you received a set of orientation materials. What was your opinion of these materials?

Responses:

. Helpful and/or impressive	25
. Good, but there was too much/repetitive	4
. Didn't really need it so didn't look in detail	4
. Can't remember	1
. A lot there but it didn't enthuse me	1
Total	35

Question: How well served have you been by **our** library?

Responses:

. Well served	15
. Only use the library at residentials - well served on these occasions	12
. Have never used the library	3
. Staff good but collection inadequate	2
. Lecturers should check that books they recommend are in the library	2
. Library not open long enough during residential schools	1
. We can't keep the loans for long enough	1
Total	36

Question: How well served have you been by the University Co-operative Bookshop?

Responses:

. Good/excellent/prompt	21
. Don't use or purchase at other branches	10
. Too expensive	2
. Bit too slow but eventually received the materials	2
. Want more opportunity to purchase second-hand texts	1
Total	36

The final question in this component on academic environment and integration was deliberately left open to allow students to raise any matters of concern not covered by previous questions. The wide range of responses is listed below. Typical quotations are given.

Question: Are there any other ways CSU-Riverina can assist you as an external student? If so, how?

Responses:

	Number of students making similar comments
· "No, I'm very satisfied."	16
· "Yes - don't feel we belong - never meet the Dean and rarely meet any other lecturers at res. schools (except those conducting sessions) - aren't they interested in us?"	5
· "Yes - provide more audio tapes."	4
· "Yes - set up a decent answering system for lecturers - can never get them."	3
· "Food standards have dropped - give us <u>full</u> meals at weekends."	3
· "Please give us more help with study skills, particularly essay writing before we start."	2
· "Provide us with more information about the place - need more details."	2
· "What about more telephone booths?"	2
· "More teleconferencing please."	1
· "Why not send tutors/lecturers to major centres?"	1
· "Supply videos more often."	1
· "Improve library resources."	1
· "Let us know if there's a change in lecturer."	1

Kember suggests the notions of normative congruence and collective affiliation together comprise the academic environment and the degree of academic integration. It is in this area that the University can have a profound influence on the future of its external students. The greater the level of normative congruence and the feeling of collective affiliation experienced by students the more likely students are to continue studying. If students cannot appreciate the relevance and value of what they are studying and/or feel they are just a number, out of sight and out of mind, they are 'at risk' and will probably withdraw.

An unacceptably high number of students (20%) saw their studies as irrelevant to their needs 50% or more of the time. The approach to study suggested the same proportion (20%) used surface-level learning techniques. Four of the students who found their studies less than 50% relevant were also using surface-level learning techniques. It would seem that for these four students normative congruence is so low that the chances of their successfully completing their studies are indeed slim.

With regard to the question of collective affiliation it is difficult to formulate a clear picture overall. In general, residential schools were regarded positively and lecturers perceived to be friendly and approachable. Administrative functions were also seen as being of a high standard. The only serious deficiency in the matter of collective affiliation was associated with the quality of assignment feedback. In too many instances students complained of slow return rates and/or inadequate comments on their work.

Social and Work Environment

A major influence on the likelihood of students successfully continuing external study is the environment in which they must live and work. Kember suggests this component of his model explores the extent to which students are able to integrate the study process with family, social life and work. Several questions in the interview schedule endeavoured to investigate this important component.

With regard to the work environment, students were asked to comment on the degree of stress related to their work, whether they worked regular hours, whether travel to work time was a problem and the amount of support they received from supervisors and work colleagues. Students were also asked to comment upon the effect their work had on their study and vice versa.

It goes without saying that there is an element of stress attached to every job, be it home duties or work outside the home. Of the thirty-six students interviewed, only five reported their workplace to be moderately or very stressful. Two students did not enjoy regular working hours while four complained of regular but very long hours (self-employed landscape gardeners). Travelling long distances to work was a problem for only three students.

The level of support provided by supervisors and colleagues varied considerably. The range of negative responses is best illustrated by the following quotations:

> "The boss wouldn't even know I'm studying - I use my sick leave to come to res. schools."

> "I had to resign from my hospital in ##### because they refused to grant me leave to come to residentials."

"Most senior staff are supportive but Board members are antagonistic."

"Matron is not impressed."

"My colleagues think I'm eccentric!"

The great majority of students, however, were able to report support from their immediate supervisors and colleagues. Most had to attend residential schools as part of their recreational leave and a few were permitted a few days 'study leave with pay'. Only one student reported having all expenses reimbursed. Although students were aware that the support provided by different employers varied, most accepted this and few complained.

A number of students reported study effecting work or vice versa (table 8).

Table 8. The interface between work and study

Responses	Number
No problems - study and employment do not effect each other.	15
Often too tired to study after work.	12
My study benefits my work - I know how to do things better and why ...	5
Working 'shifts' upsets my study routines.	3
Sometimes I can get some study in at work when things are quiet.	3
Staying up studying late at night makes me tired for work next day.	3
Work has priority over studying.	2
Study sometimes encroaches on my work.	2

Interviewees were asked to describe the influence their families had on their studying and how studying in turn effected their families. Answers were extremely diverse. Again a number of quotations can best summarise the emotions and concerns expressed.

"I have a husband and three children, 7, 5 and 3. They are very demanding and reliant. I find it very hard to find time to study."

"Study plays hell with my sex life!"

"I have a husband and three kids. Sickness is my main problem - one of us always seems to be sick. Sometimes I feel I'm neglecting the kids."

"Yes, I have a husband only. He tolerates my study - often he says I'm spending more time with my books than him."

"The kids and I get stressed before exams - I'm separated."

"It's hard to say, being absent at res. schools can be a problem."

"I find I get crotchety with the kids."

"Study has priority over my landscaping business, hence income has dropped, which in turn effects my family."

When asked whether being an external student had influenced their social life, most replied that their social life had suffered (although one student was adamant his social life had actually improved since coming to residential schools!). Thirteen students regretted they did not go out as much as before and another seven could nominate activities such as visiting family, playing tennis that they had virtually abandoned.

One student was quite worried about her psychological state as she felt she had been hibernating since undertaking studies. Only eleven of the thirty-six students considered their social life had not deteriorated. The loss of some enjoyable social pursuits appears to be a sacrifice that most students must reluctantly accept.

External study, while enabling students to work and study at home, exacts a heavy price. As this component of the Kember model has shown, work, family and social life are often effected. CSU-Riverina provides advice to potential students before enrolment and more advice after enrolment on the stresses students are likely to experience while studying. It may be timely to re-assess the value of pre-enrolment literature and the subsequent counselling services we offer to our external students.

Cost/Benefit Analysis

Reference was made earlier in this paper to the cost/benefit equation (figure 2). Unless the scales remain tilted towards the benefits side of the equation a student will withdraw. As Kember has stressed, his model is linear, and the variables may change at short notice. The final set of questions put to the students in this study was designed to explore cost/benefit related situations.

The first question asked students whether they had ever felt so discouraged with their studies that they considered dropping out. Responses are tabulated below (table 9).

Table 9. Do students feel discouraged?

Responses	Number
No, never	20
Yes, once	7
Yes, twice	2
Yes, sometimes	3
Yes, often	2
Too early to answer (first semester)	2

Clearly, many students (fourteen) had been confronted with a cost/benefit analysis situation but for them the scales had remained tilted on the benefit side. Interestingly, six of these students had temporarily withdrawn from their studies. All six expressed a desire to return as soon as their immediate problems had subsided. For these students the costs temporarily outweighed the benefits.

When asked how they coped with their discouragement the fourteen students offered a variety of answers (table 10). In most cases it was possible to determine from which component of Kember's model the students had resolved their problems.

Table 10. How students coped with discouragement

Question: How did you cope?		
Responses	Kember's Component	Number
Talked it over until I could see things more positively	Social & Work Environment	5
So close to finishing that I'm just hanging in there	Goal Commitment	2
Discussed my problems with CSU-Riverina lecturers	Academic Environment	2
Took leave and then returned	Social & Work Environment	2
Attended a stimulating res. school	Academic Environment	1
Patched up things with my girlfriend	Social & Work Environment	1
Found I had a B12 deficiency	Characteristics	1
	Total	14

Increasing Higher Education Contribution Scheme (HECS) charges, expenses incurred by attending residential schools, purchasing textbooks and student union fees combined with hard economic times may be contributing significantly to the 'cost' side of the cost/benefit analysis. Students were asked, "To what extent are expenses a problem for you" Responses are summarised in table 11 below.

Table 11. To what extent are expenses a problem for you?

Responses	Number
Not a problem	14
Yes, costs are a problem (see below)	9
Costs are becoming a bit of a worry	11
Examples of actual responses	
"Its costing me at least $1000 a semester"	1
"Its very hard - I'm a single earner"	1
"Yes, I very nearly pulled out but am almost finished"	1
"I have given up going for holidays so I have money to study"	1
"Because of my studies I have had to drop my second job and this is making things tough"	1
"HECS charges is limiting the amount of study I can do"	1
"Its hard to cope as a single parent with two kids"	1
"I only buy essential textbooks and if possible get them secondhand"	1
"The increased costs are motivating me to finish as quickly as possible"	1

The information in table 11 is disquieting. It appears students are beginning to feel the financial burden of studying. This data was gathered in May 1990. The economic indicators have shown a steady decline since then. The University needs to be more rigorous than ever before to ensure residential schools are really necessary, that textbooks prescribed are essential and that students receive real value for money. Studying externally is no longer an insignificant expense.

When asked what benefits students saw in attaining a qualification a plethora of different responses were forthcoming (table 12).

Table 12. Benefits of external study

How will you benefit from this qualification?	Number of like responses
Opens up new opportunities	19
I will have greater knowledge	9
Greater personal satisfaction	8
Chance of promotion	7
Keep up with the others	4
Professional status	4
Future security	4
Feel more confident	3
Increased pay	3
Want to qualify to do higher studies	2
Not at all - it's a hobby with me	2
New attitudes	1
I'll be a better communicator	1
Total	67*

* Many students offered more than one response.

The final question inquired whether students would commence further studies when their current qualification was attained. Table 13 shows the student responses.

Table 13. Will you start a new course when you have finished your present studies?

Response	Number
Yes, after I have had a break	10
Probably	5
No	5
Yes, but in a different field	4
Possible, but I'm unsure	4
Yes, but I doubt if I can afford to take a second qualification with another HECS load	2
Don't know	4
Total	34

To conclude this final component of Kember's model, it seems evident (as far as this small sample is representative of the total population) that many students do become discouraged and that financial expenses are starting to become a problem. Despite this, students foresee many benefits from attaining their qualifications and a surprising number have aspirations to complete other qualifications later. Students in this sample have highlighted a number of costs and benefits.

CONCLUSION

This study has used Kember's linear process model of drop-out as the basis for investigating the success or otherwise of a sample of students undertaking distance education at CSU-Riverina. Simultaneously, it has been possible to make a tentative appraisal of the validity of the Kember model.

Undoubtedly, the model has provided an appropriate and workable theoretical framework for this study. The plethora of interacting factors likely to influence external students to continue or abandon their studies are all encapsulated in one or more of Kember's major components. It is suggested, however, that the model can be used in a more positive sense. In this particular study the model has been employed as an analysis tool to ascertain not only the concerns students have experienced but, more importantly, what are the positives in the cost/benefit equation that have encouraged students to continue studying. It would seem that to describe the model as a model of drop-out, is to suggest that it is limited to an analysis of attrition. Apart from six 'temporary drop-outs', this study uses Kember's model to examine student progress. The potential of the model might be better understood if it was referred to as the Kember linear-process model of progress and/or attrition (attrition is preferred to the term 'drop-out').

The liberty was taken in this study to collapse four of Kember's components into two. Academic environment and academic integration were combined and social and work environment and social and work integration were combined (see figure 1). The components were collapsed quite simply because they appeared to be so similar. It is difficult to envisage academic integration as not being an essential part of the academic environment. The same applies to social and work integration which is surely a vital ingredient in the social and work environment component. It was not, therefore, considered appropriate to try to categorise these elements as separate entities.

Finally, there would appear to be enormous potential for Kember's model to be used as the basis for counselling work. A broad understanding of the components, culminating as they often do, in decisions about cost/benefit, would provide a valuable framework for a counsellor specialising in the problems of external students.

Kember's linear-process model of progress and attrition has enormous potential for researchers and counsellors in the field of distance education. It is to be hoped that others recognise this potential and make use of it.

REFERENCES

Amundsen, C. and Bernard, R. (1989) Institutional support for peer contact in distance education: an empirical investigation. *Distance Education*, 10, 1, 7-27.

Bowlay, D.J. (1979) Motivation and external students: pleasure or profit? Paper presented to 4th ASPESA Forum, Perth.

Brundage, D.H. and Mackeracher, D. (1980) *Adult learning principles and their application to program planning*. Ontario Institute for Studies in Education.

Clyde, A. et al. (1983) How students use distance teaching materials: an institutional study. *Distance Education*, 4, 1, 51-71.

Dahlgren, L.O. (1978) Qualitative differences in conceptions of principles in economics. Paper presented at the 4th International Conference on Higher Education, University of Lancaster.

Daniel, J.S. and Marquis, C. (1983) Interaction and independence, getting the mixture right. In Sewart, D. et al (eds) *Distance education, international perspectives*. Beckenham, Croom Helm.

Deci, E.L. (1975) *Intrinsic Motivation*. N.Y.: Plenum Press.

Dodds, A.E. and Lawrence, J.A. (1983) Heuristics for planning university study at a distance. *Distance Education*, 4, 1, 40-52.

Durkheim, E. (1961) *Suicide* (translated by J. Spaulding and G. Simpson) Glencoe: The Free Press.

Holmberg, B. (1983) Guided didactic conversation in distance education. In Sewart, D. et al (eds) *Distance Education, International Perspectives*. ACT: Croom Helm.

Kember, D. (1989) An illustration, with case studies, of a linear-process model of drop-out from distance education. *Distance Education*, 10, 2, 196-211.

Hough, M. (1984) Motivation of adults, implications of adult learning theory for distance education. *Distance Education*, 5, 1, 7-23.

Knowles, M. (1970) *The modern practice of adult education: androgogy -v-pedagogy*. New York: Associated Press.

McIntosh, N.E. et al. (1980) Student demand and progress at the Open University: the first eight years. *Distance Education*, 1, 1, 37-60.

Marton, F. and Säljo, R. (1976) On qualitative differences in learning - outcome and process. *Brit. J. of Educational Psychology*, 46, 4-11.

Mathias, H.S. (1980) Science students' approaches to learning. *Higher Education*, 9, 39-51.

Morgan, A., Gibbs, G. and Taylor, E. (1980) Students approaches to studying the social science and technology foundation courses: preliminary studies - study methods group report number 4. Milton Keynes: I.E.T..

Roberts, D.W. (1984) An analysis of distance education study patterns at RCAE. Unpublished Graduate Diploma project.

Rogers, C. (1969) *Freedom to learn.* Columbus: Charles E. Merrill.

Taylor, E., Gibbs, G. and Morgan, A.R. (1980) *Study methods group report number 7.* Milton Keynes: I.E.T.

Tinto, V. (1975) Drop-out from higher education: a theoretical synthesis of recent research. *Review of educational research*, 45, 1, 89-125.

Tinto, V. (1982) Limits of theory and practice in student attrition. *Journal of higher education*, 53, 687-700.

Tough, A. (1971) *The Adult Learning Projects.* Toronto: Institute for Studies in Education.

AUSTRALIA'S FIRST AGRICULTURAL DEGREE (TECHNOLOGY) BY DISTANCE EDUCATION

Dunn, A.M.

BACKGROUND

From about the turn of the century agricultural education has been provided at Wagga Wagga. Wagga was by no means the first in Australia to establish agricultural education - the older agricultural colleges like Roseworthy (Victoria), Hawkesbury (New South Wales) and Dookie (Victoria) started in the early 1880s. However, it is important to note that agricultural education began in the Agricultural Colleges thereby preceding any University Agriculture programs by nearly 30 years.

Until the conversion of Agricultural Colleges to Colleges of Advanced Education (CAEs) in the early 1970s (some years later in Victoria) the older Agricultural Colleges languished in course development and educational innovation. It was Rural Science and Agricultural Economics offered at the University of New England which became the innovative courses of the 1960s.

Other significant developments have included new agricultural college courses at Marcus Oldham (South Australia), Orange (New South Wales) and Glenormiston (Victoria) which offered the "whole" farm management approach imported from Lincoln College in New Zealand.

The upgrading of agricultural colleges to CAE level which began in 1970, stimulated innovative course design and enabled the colleges to compete with the universities - both for undergraduate enrolment and in the workplace. Before 1970 the choice of courses was either subtertiary Agricultural College or University.

20 years later, McColl (1990) listed an extensive range of offerings - 67 in "agriculture type" courses alone. The underlying message was that this was far too many, too confusing, and needed rationalising.

Given the proliferation of courses and in particular Riverina CAE's (now Charles Sturt University-Riverina) commitment to external studies it is perhaps strange that it has taken so long to get a standard agriculture degree course offered by distance education mode.

One reason is that the School of Agriculture at Riverina CAE was already committed to new course offerings, including wine science and viticulture, which were entirely by distance education, and later in 1978, an Associate Diploma of Agriculture also entirely by distance education. Another possibility is the belief that one cannot teach a science based agriculture course by distance education. The latter argument is spurious. Wine Science and Applied Science have both been successfully taught at Riverina CAE for several years now.

ASSOCIATE DIPLOMA OF AGRICULTURE-FARMING BY DISTANCE EDUCATION

The original intake of students was in February 1978, so the course has had 13 intakes varying from 34 enrolments down to nine, with allocated places initially for 30 but declining to 20 students in recent years.

Over the life of the course about 130 to 140 graduates will have been produced. Our undergraduate clientele and graduate employment have been extremely varied and have little relationship to the original intended course clientele who were farm owners and managers.

In hindsight the design, material, facilities and staff commitment were close to ideal. So the question arises, "why is this Associate Diploma being shut down?" The short answer is not enough students were coming into the course. Furthermore, because it was a unique design, it could not be articulated with other courses.

The shortage of students, we suspect was due to poor promotion. It was evident that the only significant factors in attracting students were word of mouth, and the unique mode of offering. Students could complete an agricultural technology type course, with no heavy science content, in two and a half years by correspondence.

The unique course design was a more complex reason for the course's demise. It was an agricultural technology course with plants, animals, soils, farm management, engineering and extension content. None of the subjects were suitable for any other course offerings because they did not use the normal prerequisite sequence. Nor could they be used as a block sequence articulated with an external degree course.

Course objectives and subject structure were based on the farm year, starting from where farmers were in terms of local conditions and experience and moving immediately into applied technology. Basic science was taught in the subject as required. The work of Hawkins et al (1974) was used to develop the course submission.

Furthermore, the course was structured to avoid farm work peaks by running residentials in February and July. This reduced the course length to two and a half years: a considerable advantage to students, but a disadvantage for the College administration! Farmers and industry people were consulted on course design and were involved later in modifications. As most course applicants were mature aged, entry requirements were flexible, but the clientele varied from year to year. Some years enrolments were dominated by farmers and managers, but the last year was predominantly NSW Department of Agriculture field staff. Other students came from the wife, son and daughter category. We also had Western Lands inspectors, hobby farmers, and people leaving an industry to enter agriculture (e.g. teachers and ex-service personnel).

Strangely, no TAFE teachers completed the course but two students have used the course to go into TAFE teaching. No other government department officers apart from a Police Prosecutor have completed the course! This is difficult to explain because NSW Agriculture and Fisheries readily accepted the qualification as an entrance to the Technical Officer classification and supported approximately 20 officers through the course with nearly 100% success. This is some indication of the course's value and potential when students had employer support.

It is not usual for academics to admit that they gained something from teaching their subjects but the Associate Diploma has contributed strongly to staff motivation and ability to offer the agriculture degree by distance education. First, we learnt how to teach by the distance education mode. Second, with "course based" four weeks per year residential schools, we developed a strong link with the students and through them the agricultural industry. There were always enough farmers and Agriculture Department people, plus "notable personalities", to keep us interested and honest.

For the first few years of the course staff visited students on their farms. Later this evolved into a two day tour twice a year for all levels in the course. Often former students would be visited. This was not part of the original course design - rather an adaptation to changing needs, but it had great benefit for students and staff. The consequences of this are that staff associated with the course have some regrets about its discontinuance.

Many graduates gained promotion or changed jobs as a result of the course including joining our own staff. Others became feedlot managers, technical officers, field officers, and teachers (Longreach Pastoral College and TAFE).

ASSOCIATE DIPLOMA OF AGRICULTURAL PROTECTION - DISTANCE EDUCATION

This course is also being discontinued. It was a conventional four year correspondence course with one residential school per year. It was also an Associate Diploma tailored to the regulatory industry - developed as a result of extensive industry contact. It too has foundered because of a lack of industry commitment. There was much lip service paid to the course concept and the career opportunities that should evolve from it. In the end the latter did not materialise and so the source of students dried up.

LESSONS LEARNT AND IMPLICATIONS FOR NEW EXTERNAL OFFERINGS

The main lesson to be learnt from the two discontinued courses is the unpredictability of industry demand:

- Both courses were aimed at people already in employment yet neither was adequately supported.

- Both were specifically tailored to needs.
- Both were staffed specifically for the task and neither was compromised by "off the shelf" subjects from other programs.
- Both were very demanding in volume and content.

As far as the farming industry is concerned, it can be concluded that people do not want a formal qualification; topic specific short courses are perhaps more relevant. After all the noise from the academics and professionals in the 1970s about "who is going to train the farmers?" - it appears that the farmer surveys were correct. Farmers, it was said, would not be interested in full time courses, but formal education would be relevant for their sons and daughters. Salmon et al (1973), Hawkins, Almond and Dwyer (1974), and Bardsley (1982) provide some of the background work on farmers' needs for education and learning.

THE 1990 COURSE SUBMISSION FOR AN EXTERNAL DEGREE B.APP.SCI.(AGRIC.)

Almost with the stroke of a pen this external course was approved in March 1990. It was as if we had been in suspended animation waiting for the right time. Just six months earlier a Review of the School of Agriculture stated:

> "...there appears to be a need and demand for the Bachelor of Applied Science (Agriculture) to be offered externally" (School of Agriculture, 1990, 2.3(d) p.11).

It was also stated in the accreditation document that:

> Resources for the proposals will be made available by deleting the current Associate Diplomas in Farming and Agricultural Protection and transforming their combined EFTS allocation to the Bachelor of Applied Science (Agriculture) by external studies. (School of Agriculture, 1990, p.1).

INDUSTRY NEED AND DEMAND

In support of its case, the course submission document referred to ABARE industry trends (namely, increasing productivity and declining farmer numbers), the worldwide interest in sustainable agricultural systems and conservation, and the increasingly complex environment in which farmers operate. The last point was bolstered by recognition of a global context for trade and markets. Presumably this applies to educators and graduates as well as farmers, and has important implications for the curricula.

More specifically, the course accreditation document concluded that agriculturalists would need to:

- be technically skilled,
- have expertise in efficient and environmentally sensitive production systems ... and also have competencies in:
- financial management,
- political awareness,
- communication skills.

Most of these objectives are the same as for the full time Agriculture degree but there is one important change: more emphasis is placed on the environment/agricultural systems area.

The basic course structure is presented in Figure 1. While it is the same as that for the full time mode, teaching methods will change.

Support for the external offering of the B.App.Sci.(Agric.) is documented in the course submission and includes:

(i) statement of support from the private and public sectors,

(ii) demand from Associate Diploma holders (see Table 1), and

(iii) a perceived demand from three main sections of the industry:

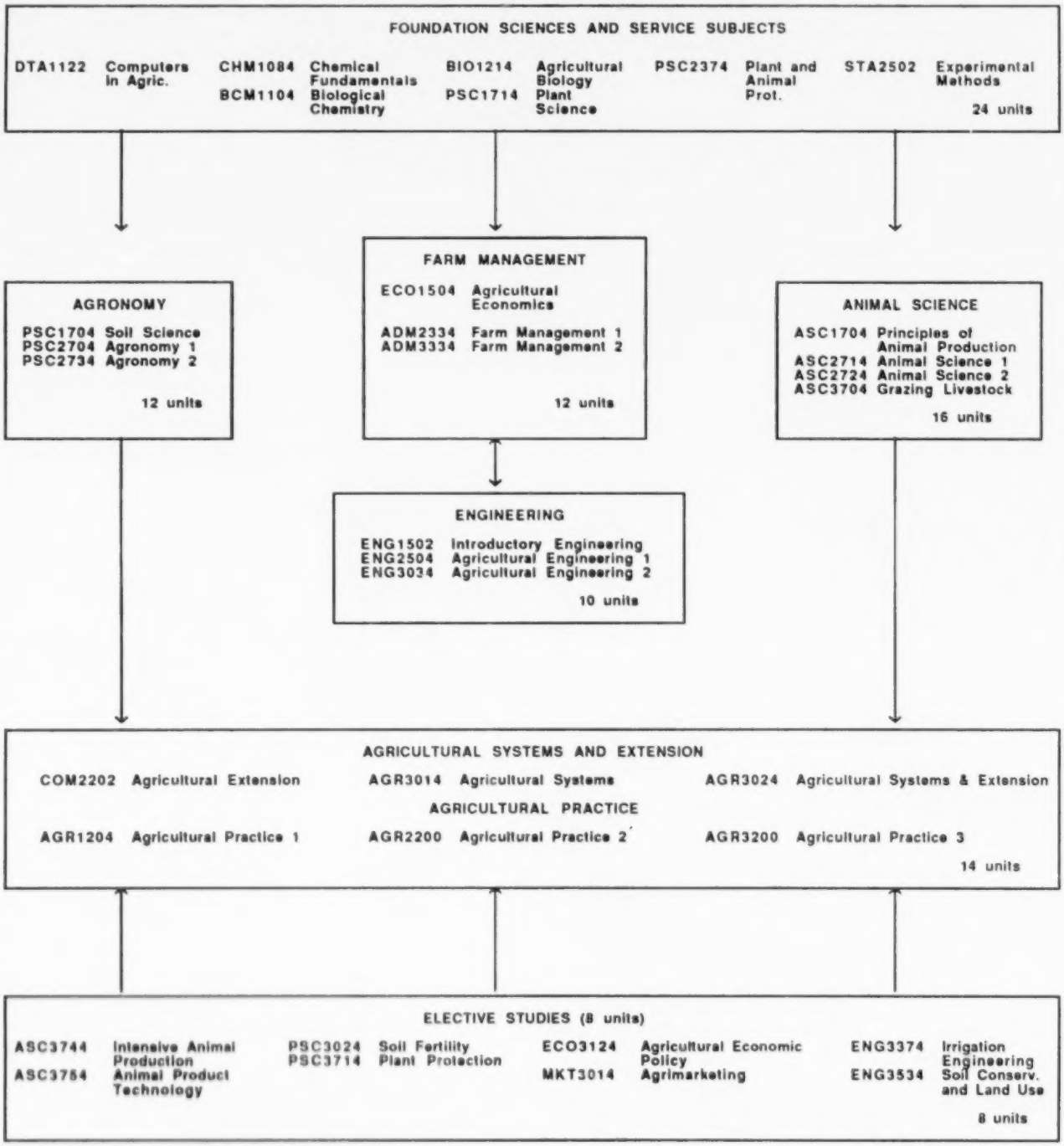
- agricultural services, including regulatory personnel who seek to upgrade their qualification
- farm managers who wish to seek promotion
- school leavers who cannot attend full time study.

Table 1. Student and Graduate Survey (February 1989) Need for Upgrading Opportunities

	Total	Yes	Possible Future	No
Graduates - Farming	13	6	6	1
- Protection	6	5	1	0
Students - Farming	14	11	3	0
- Protection	23	17	5	1
	56	39	15	2

(Source: School of Agriculture, 1990 *op.cit.*).

Figure 1. Course Structure
Bachelor of Applied Science (Agriculture)



[Source: School of Agriculture (1990) Course submission - a proposal for accreditation of the Bachelor of Applied Science (Agriculture) course as an external mode program, p.6, Charles Sturt University-Riverina]

Enrolments for the launching of the B.App.Sc. (Agriculture) were excellent. Hundreds of inquiries were received during 1990 culminating in 120 applicants for only 36 available places.

The School has the normal range of teaching facilities plus some important farm and research resources:

. mixed farm

. dairy farm

. equine performance centre

. winery and vineyard

. Centre for Conservation Farming

. Centre for Teaching and research in the Wine and Grape Industries

The School is also committed to the principle of articulation, and is offering conversion to the degree from the Associate Diploma of Agriculture (Farming) and Associate Diploma of Agriculture (Protection). Fifty percent advanced standing may be granted. A program of two subjects per semester for six semesters is now in place.

There is also opportunity to add an honours year, a Postgraduate Diploma and a Masters Degree.

DISTANCE EDUCATION CENTRE AND EXTERNAL STUDIES

Charles Sturt University is Australia's largest Distance Education Centre (DEC) offering more than 80 courses in a broad range of disciplines to around 8,500 external students. CSU's constituent campuses have been providers of distance education since 1971 and have developed a sophisticated infrastructure for student support including:

. residential schools

. national and international examination centres

. remote access library services

. remote access computing services

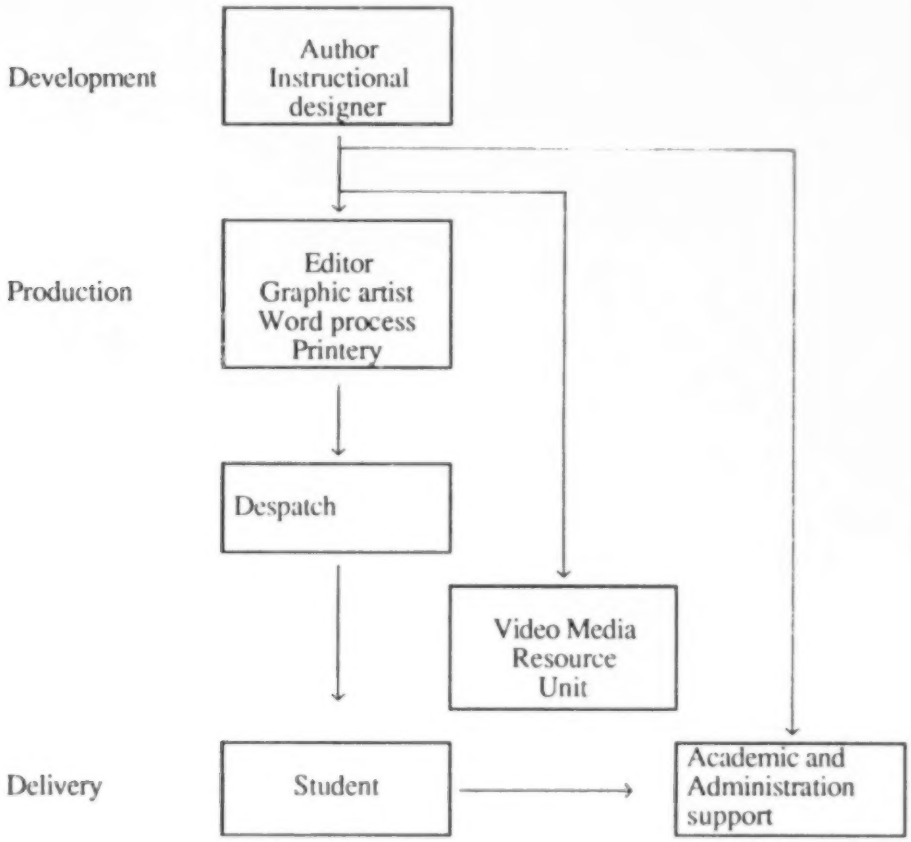
. electronic mail, facsimile and teleconferencing

. academic counselling

. bridging courses

Subject development and delivery is a team effort involving academic and distance education staff - see Figure 2.

Figure 2. Coordination of Distance Education Resources



(Source: CSU Distance Education Centre brochure)

The Instructional Designer works closely with academic staff in the early stage of subject development. Recent experience in writing the Agricultural Practice 1 subject has shown the following advantages:

(i) team development of goals
(ii) clarifying and writing objectives
(iii) linking objectives with content, process and assessment
(iv) structuring printed materials
(v) advising on audio-visual supplementation
(vi) commenting on written material

There is an advantage in having a professional educator colleague who is not in the same discipline area but who can help with curriculum design.

INNOVATIVE RURAL EDUCATION AND TRAINING PROGRAM

Staff realised that additional help was needed in the development of the new distance education degree.

In November 1989 an application was made for a grant from the Department of Employment Education and Training (DEET) to develop the Bachelor of Applied Science (Agriculture) degree for distance education. Staff from the School of Agriculture and External Studies were involved in formulating this submission.

The project aimed to alleviate the isolation problems faced by people already in the workplace, who were seeking a flexible study mode and who wanted a professional agricultural qualification.

In July 1990 a grant of $36,000 was received and plans for the recruitment of a Development Officer undertaken. This person is currently employed for eight months to be responsible for developing course materials in subject areas where School staff lack experience, for example: Agriculture Practice, Agricultural Systems and Agricultural Extension. These subjects are presented on campus using small group and staff contact. Active learning and workshop teaching methods are the norm and give a particular flavour to the program. It is a challenge to reproduce this flavour in the external mode. However, these "problems" are seen as opportunities to innovate, and "writing" the external subject version is already having beneficial effects on the internal offerings. The DEET grant will enable staff to research and develop new methods of teaching.

COURSE STRUCTURE

This remains the same as for the full time on-campus course. The first subjects on offer are those that will be required for the conversion courses. At eight units per semester it will take most students progressing at the recommended rate six semesters to complete.

Subject sequences have been kept in line with the full time course thus allowing students the option of moving between modes. This should be a great advantage to students to cover changing circumstances in their employment and family situation.

Residential schools are being held in February or May (Autumn session) and September (Spring session), and usually will involve between two and four days per subject. Where two subjects require four days each it does not necessarily mean eight days in total, as complementary timetabling is sometimes possible.

CONCLUSION

Looking back, it is difficult to see why agricultural science/technology has not been taught externally before now. There is a need, and none of the problems appear insurmountable now that the job has started.

At CSU-Riverina we are drawing on our previous experience teaching Associate Diplomas of Agriculture over the last 13 years. There is also considerable science teaching expertise (distance education mode) in the School and in External Studies, so that all that had to be done was slaughter a few "sacred cows"! Some of these are listed for your consideration.

(i) "We all have enough to do with our full time teaching".

Comment: This is a luxury that only a few large city based institutions can afford, and it ignores the learner's situational needs and the innovations available with communications technology and innovative teaching methods.

(ii) "It is hard work to develop distance education materials".

Comment: The pay-off is likely to benefit the full time offering.

(iii) "Agricultural science subjects cannot be taught by distance education".

Comment: Many distance education courses in other science areas have been successful.

(iv) "The course may not meet a particular market researched need".

Comment: The "public good" aspects of a good tertiary degree cannot be substantiated by traditional market research methods (personal communication with Barry Bardsley, 1990, and an important reply to some issues raised in the Review of Agricultural and Related Education Discussion paper).

(v) "Distance education offerings may compete with full time enrolments".

Comment: Distance education is more likely to be complementary and to increase enrolments by allowing more flexibility.

REFERENCES

Bardsley, B. (1982) *Farmers' assessment of information and its sources: an investigation using interactive computer techniques*:, School of Agriculture and Forestry, University of Melbourne, Parkville.

Charles Sturt University-Riverina (1990) *Course submission: a proposal for accreditation of the Bachelor of Applied Science (Agriculture) course as an external mode programme, Part A*, Charles Sturt University-Riverina, Wagga Wagga.

Hawkins, H.S., Almond, E.F. and Dwyer, M.G. (1974) *Post-secondary education needs of Australian farmers: a survey of opinions of farmers and Agricultural College lecturers*. School of Agriculture and Forestry, University of Melbourne, Parkville.

McColl. (1990) *Issues in agriculture and education*: a discussion paper from the Review of Agriculture & Related Education, C/- SACAE, Underdale, SA.

Salmon, P.W., Foundation, R.N. and Hawkins, H.S. (1973) *Human adjustment in Australian agriculture 1972*, School of Agriculture and Forestry, University of Melbourne, Parkville.

A CALL FOR PAPERS

Occasional Papers in Distance Education Number 12 is timetabled to appear circa October 1991.

Charles Sturt University staff are invited to submit a copy of any material for publication in the next edition no later than Friday **29 June 1991**.

Please forward papers to:

David Roberts
Co-editor
Occasional Papers
Division of External Studies
Charles Sturt University-Riverina
PO Box 588
WAGGA WAGGA NSW 2650

Enquiries please ring **(069) 22 2568**.

OR

Associate Professor David Meacham
Co-editor
Occasional Papers
Distance Education Resource Centre
Charles Sturt University-Mitchell
Panorama Road
BATHURST NSW 2795

Enquiries please ring **(063) 31 1022**.